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| C:\Users\a\Pictures\mk.jpg.JPG  COLLEGE SYSTEM DATABASE | This project provides a database for college system  DATABASE |

**Mekelle university**

**EITM**

**School of computing**

**Department of computer science**

**Database Assignment**

**Assignment title collage database SYSTRM**

**Section=2**

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**College database system**

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**1.1**

**List of entities**

**1.Student**

**2.Course**

**3.Head**

**4.Instructor**

**5.Department**

**1.2**

**List of attributes in the form of schema**

**Student(sid,fname,lname,gender,DOB,GPA,status)**

**Course(c\_code,c\_inst\_c\_title,c\_crh,dept\_code,inst\_id)**

**Head(head\_id,fname,lname,head\_office\_number,head\_salary,gender,dept\_code)**

**Instructor(ins\_id,fname,lname,gender,employ\_date,salary,dept\_code)**

**Department(dept\_code,dept\_name,dept\_office,number,dept\_address)**

**Enroll(sid,cid,enroll\_date)**

**1.3 relationships**

**Head---------------------- 1--------------MANAGES----------1--------------------department**

**Department --------------1-----------OFFER-------------------N--------------------------course**

**Instructor----------------1------------ WORKS FOR------------N-----------------Department-**

**Instructor ---------------1------------------HEAD OF------------1----------------- Department**

**Instructor-----------------1------------------------TAKES--------------N------------------course**

**Student---------------------M--------------------- ENROLL------------N------------------ course**

**System description**

A college contains many department. Each department can offer any number of courses. Many instructors can work in a department, but an instructor can work only in one department. For each department, there is a head, and an instructor can be a head of only one department. Each instructor can take any number of courses, and a course can be taken by only one instructor . A student can enroll for any number of courses and each course can have any number of students.

**Data Dictionaries**

**Field name description type length**

Dept\_name department name varchar 25

Dept\_office\_number department office # varchar 5

Dept\_address department address varchar 15

Dept\_codee department code int -

Head\_id head id int -

FName first name varchar 15

LName last name varchar 15

Head\_office\_number head office number varchar 10

Head\_salary head salary money -

Gender gender char 5

Inst\_id instructor id int -

Employ\_date employ date date -

Salary salary money -

C\_code course code int -

C\_inst course\_instructor varchar 20

C\_title course title varchar 20

C\_crh course credit hour int -

Stud\_id student id int -

DOB date of birth date -

GPA grade point average float -

Enroll\_date enroll date date -

**Different select functions**

create database CollegeDataBaseSystem;

use CollegeDataBaseSystem;

create table Department

(

Dept\_codee int,

Dept\_name varchar(25) not null,

Dept\_officeNo varchar(5) not null,

Dept\_address varchar(15) not null,

primary key(Dept\_codee)

);

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(1,'software','A1','kuiha') ;

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(2,'computer\_sience','A2','kuiha');

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(3,'agriculture','B1','Arid');

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(4,'Dental','D2','Ayder');

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(5,'veternary','C5','Asrasebat');

select \*from Department

create table Head

(

Head\_id int,

FName varchar(15) not null,

LName varchar(15) not null,

Head\_officeNo varchar(10) not null,

Head\_salary money not null,

Gender char(5),

primary key(Head\_id),

Dept\_Codee int,

foreign key( Dept\_Codee ) references Department(Dept\_codee)

);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(31,'dawit','ambachew','T1',6000,'M',1);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(32,'eyob','ambaye','T2',6300,'M',2);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(33,'merhawit','belay','G3',6500,'F',3);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(34,'Selomon','Tsehaye','G5',5500,'M',4);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(35,'Hana','Bereket','E5',7000,'F',5);

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender)

values(36,'Hana','abebe','r4',9000,'F');

select \*from Head

create table instructor

(

inst\_id int,

Fname varchar(15) not null,

Lname varchar(15) not null,

Gender char(5),

Employ\_Date varchar(22) not null,

sallary money not null,

primary key(inst\_id),

Dept\_Codee int,

foreign key( Dept\_Codee ) references Department(Dept\_codee)

);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(12,'milion','g/r','F','sept 14 2013',9200,1);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(13,'abebe','g/r','m','oct 14 2012',8700,2);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(14,'helen','bedlu','F','jan 14 2011',77200,3);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(15,'gentu','tomas','m','jun 14 1993',15200,4);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(16,'gerae','emune','m','fbr 13 2010',123200,5);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary)

values(17,'hlina','bogale','f','sept 14 2005',10200);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary)

values(19,'hlina','bogale','f','sept 14 2005',10200);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary)

values(20,'haftamu','bogale','m','sept 14 2005',10200);

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_Codee)

values(21,'haile','halefom','m','sept 14 2005',10200,1)

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_Codee)

values(22,'figrezgi','hailu','m','sept 14 2005',10200,1)

select \*from instructor

create table Course

(

C\_code int,

C\_inst varchar(20) ,

C\_title varchar(20) not null,

C\_crh int,

primary key(C\_code),

Dept\_Codee int,

foreign key( Dept\_Codee ) references Department(Dept\_codee),

inst\_ID int,

foreign key( inst\_ID ) references instructor(inst\_id)

);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(101,'Fkradis','Webdesign',6,1,12);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(102,'Fanuel','Advanced java',7,2,13);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(103,'Fanuel','mobile programming',7,2,13);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(304,'eyuel','mobile pro.',5,3,14);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(405,'Million','compiler design',7,4,15);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(303,'Maerg','Database',7,5,16);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,inst\_id)

values(307,'Mesfne','oprating system',4,17);

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(106,'haftamu','Advanced java',7,1,20);

select \*from Course

create table Student

(

Stud\_id int,

FName varchar(15) not null,

LName varchar(15) not null,

Gender varchar(5),

DOB varchar(22) not null,

GPA float not null,

status varchar(10),

primary key(Stud\_id)

);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(158046,'Getahun','Haftu','m','19/9/1989',3.5);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(158011,'Genet','Abrha','f','19/9/1989',3.6);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(156065,'Getasew','Ayanaw','m','14/4/1990',4);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(158088,'mana','Hiluf','f','19/9/1988',3.35);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(158047,'haftamu','Redae','m','19/9/1991',3.99);

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(158032,'meseret','Hadis','f','19/1/1987',3.75);

select \*from Student

create table Enroll

(

Sid int,

Cid int,

Enroll\_date varchar(22),

primary key(Sid,Cid)

);

insert into Enroll(Sid,Cid,Enroll\_date)

values(158046,101,'1/2/2010');

insert into Enroll(Sid,Cid,Enroll\_date)

values(158046,102,'1/2/2010');

insert into Enroll(Sid,Cid,Enroll\_date)

values(158011,102,'5/3/2009');

insert into Enroll(Sid,Cid,Enroll\_date)

values(156065,304,'2/2/2011');

insert into Enroll(Sid,Cid,Enroll\_date)

values(158088,405,'4/3/2012');

insert into Enroll(Sid,Cid,Enroll\_date)

values(158047,303,'7/2/2008');

insert into Enroll(Sid,Cid,Enroll\_date)

values(158032,307,'1/3/2010')

insert into Enroll(Sid,Cid,Enroll\_date)

values(158032,303,'1/3/2010')

select \*from Enroll

--6

/\*Query 1.list all the departement information in the colleage database system\*/

select dept\_name,dept\_address ,Dept\_codee from Department

/\* Query 2. retrive payment of all instructors in the colleage?\*/

select distinct Fname,Lname, sallary

from instructor ;

/\*Query 3 which students got 4.0 GPA in the colleage. \*/

select \*

from student

where GPA=4;

/\*Query4. which instructors payed more than 7000\*/

select distinct Fname,Lname, sallary

from instructor

where sallary>7000;

/\*Query5.which departements are given in quiha and arid campus \*/

select \*

from department

where Dept\_address='arid' OR Dept\_address='kuiha';

/\*Query6.who female students in the colleage have more than 3.6 GPA \*/

select Fname,LName,GPA

from student

where GPA>3.6 and Gender='f';

/\*Query7. retrive students whose first name starts with G \*/

select \*

from student

where Fname like 'G%';

/\*Query8, retrive all male head managers \*/

select \*

from head

where Gender='M';

/\*Query9.select courses with seven credit hour\*/

select C\_title , c\_crh

from course

where C\_crh='7';

/\*Query10. which courses are found in computer science Department \*/

select c\_title,c\_code,Dept\_name from Department join Course

on(Department.Dept\_codee=course.Dept\_Codee) where Dept\_name='computer\_sience';

/\*Query11.retrive name and salary of female instructors \*/

select Fname,sallary

from instructor

where Gender='F';

/\*Query12.retrive name and salary of instructors in the order of decending salary \*/

select Fname,Lname,sallary

from instructor

ORDER BY sallary DESC;

/\*Query 13.retrive all information about instructer whose sallary is more than 15000 in assending the sallary \*/

select \* from instructor where sallary>15000 order by sallary asc

/\*Query14.retrive students with their first name between 'a' and 'h'\*/

select Fname,Stud\_id

from student

where Fname between 'a' and 'h';

/\*Query15.get student information that born after 19/1/1987 \*/

select \*

from student

where DOB >'19/1/1987';

/\*Query16. select salary and fname of head whose firtst name starts with H or m and their salary greater than than 5500\*/

select Fname,Head\_salary

from head

where Fname like 'H%'

OR Fname like 'M%'

AND Head\_salary>5500;

/\*Query17.who teaches database course \*/

select C\_inst

from Course where C\_title='database';

/\*Query18. display information about status of the students \*/

select FName,GPA,'pass' as status from Student where GPA>=3.5

union

select FName,GPA,'fail' as status from Student where GPA<3.5

/\*Query19.get department infromation that have address other than kuiha\*/

select \*

from department

where Dept\_address!='kuiha';

/\*Query20.get name and salary of instructors that are ordered alphabeticaly by thier name \*/

select Fname,sallary

from instructor

ORDER BY Fname;

--7

--sub query 1. retrive the name and employ date of all instructors who teaches in Dental.

SELECT Fname,Lname ,Employ\_Date

FROM instructor

WHERE Dept\_codee in (

SELECT Dept\_codee

FROM department

WHERE Dept\_name='dental');

--sub query 2. which departements contain advanced java course.

SELECT Dept\_name

FROM department

WHERE Dept\_codee in(

SELECT Dept\_codee

FROM Course

WHERE C\_title ='Advanced java' );

--sub query 3.who are the heads of computer scince and software enginnering.

select FName,LName

from Head

where Dept\_Codee

in(

select Dept\_codee

FROM department

WHERE Dept\_name='computer\_sience'or Dept\_name='software' );

--8.select statments using count and group

--1.how many number of studentes are in the colleage.

select count(Stud\_id) as 'Total Student' from Student

--2.how many number of instructors work kuiha campus.

select count(Dept\_Codee) from instructor

where Dept\_Codee in (select Dept\_Codee from Department where Dept\_address='kuiha');

--3.retrive total payment of instructors for CS and software based on thier departement address.

SELECT Dept\_address,sum(sallary) as

sum FROM Department join instructor

on(Department.Dept\_codee=instructor.Dept\_Codee)

WHERE Department.Dept\_codee

in (select Dept\_Codee from Department

where Dept\_name='computer\_sience'or Dept\_name='software')

group by Dept\_address ;

--4.retrive total payment for male and female heads based on their Gender

select Gender,sum( Head\_salary) as total from Head group by Gender

--9. select statments usin join

--join 1.what are the instructer name and salary that works in all departments

select Fname,Lname,sallary

from Department join instructor on (Department.Dept\_codee=instructor.Dept\_Codee);

--join 2.retrive course name,credit hour and inst\_id for all instructors,but inst\_id must include

select C\_title,C\_crh,instructor.inst\_id

from instructor left join Course on (instructor.inst\_id=Course.inst\_ID);

--join 3.retrive course title,course code and instructoor name for all instructors,but course code must include

select C\_title,course.C\_code,Fname

from instructor right join Course on (instructor.inst\_id=Course.inst\_ID);

--join 4.retrive course title,course code ,inst\_id and instructoor name for all instructors,but course code and inst\_id must include

select C\_title,course.C\_code,Fname,instructor.inst\_id

from instructor full join Course on (instructor.inst\_id=Course.inst\_ID);

--join 5.which instructor get's maximum sallary from all the departments.

select Fname,Lname,Sallary from instructor join Department on

(instructor.Dept\_Codee=Department.Dept\_codee)

where sallary in(select max(sallary) from instructor)

--10 insert statments

--1.insert a new department named IT with departmen code 6 that locates in Aynalem and it's ofice number is b32

insert into Department(Dept\_codee,Dept\_name,Dept\_officeNo,Dept\_address)

values(6,'IT','B32','Aynalem') ;

--2.add a new instructor whose name Nolawi haftu with id 18 and payed 10000 employed on 1/7/2013

insert into instructor(inst\_id,Fname,Lname,Gender,Employ\_Date,sallary,Dept\_codee)

values(18,'Nolawi','Haftu','M','march 1 20013',10000,6);

--3.add a new course named Digital logic with code of 105 and 5 credit hour.this course is teached by Nolawi haftu

insert into Course(C\_code, C\_inst, C\_title,C\_crh,Dept\_codee,inst\_id)

values(105,'Nolawi Haftu','Digital Logic',5,5,18);

--4.add a new head for the new department whose name is Alembrhan Hagos whose Salary is 50000 and office number is A27 with id of 44

insert into Head(Head\_id,FName,LName,Head\_officeNo, Head\_salary,Gender,Dept\_codee)

values(44,'Alembrhan','Hagos','A27',50000,'F',6);

--5.add a new student named abel ferede whose id is 1560 and born on 1993

insert into Student(Stud\_id,FName,LName,Gender,DOB,GPA)

values(1560,'Abel','Ferede','m','03/6/1993','');

--11 updating statments

--1.change the name of stuhdent who has stud-id 1560 to Gecho

update Student set FName='Gecho' where Stud\_id=1560

--2. update the name of an instructor who teachs in Dental

update instructor set Fname='belay'

WHERE Dept\_codee in (

SELECT Dept\_codee

FROM department

WHERE Dept\_name='dental' );

update Course set C\_title='java networking'

WHERE Dept\_Codee in(

SELECT Dept\_Codee

FROM Department

WHERE Dept\_name='computer\_sience' and C\_title='Advanced java' )

select \*from Course

select \*from instructor

--3.udate the name of Head who has salary 5500 and wh0se head office is G5

update Head set FName='Amanuel' where Head\_salary=5500 and Head\_officeNo='G5'

--4.update the course name with in CS departement advanced java to java networking.

update Course set C\_title='java networking'

WHERE Dept\_Codee in(

SELECT Dept\_Codee

FROM Department

WHERE Dept\_name='computer\_sience' and C\_title='Advanced java' )

select \* from Course

--5.edit the enroll date of a student who has id 158032 and course id 307

update Enroll set Enroll\_date='5/5/2005' where Sid=158032 and Cid=307

--12.Delation statments

--1.remove male students

delete from student where Gender='m'

--2. delete the head Head\_officeNo and has sallary 10200

delete from head where Head\_officeNo='E5'and Head\_salary=7000

--3.remove head that has sallary less than 6500 and his/her first name or last name starts with m

delete from Head where Head\_salary<6500 and FName like '%m%' or LName like '%m%'

--4.remove male students and who have A GPA less than 4

delete from student where Gender='m' and GPA<4

--5.remove the enroll date of a student who has student id 158088 and course id 405

delete from Enroll where Sid=158088 and Cid=405